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Indiana State
Department of Health
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Health Care Quality Indicator Plan
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Submitted by:
Indiana State Department of Health
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Indiana Code 16-40-4

Health Care Quality Indicator Data Program Implementation Plan

Objective:
The overall objective of this project is to develop a program/methodology to measure and compare the quality of health care services in Indiana.

This program furthers the work of the Commission on Healthcare Excellence[1], which assessed and developed the current state of health care data and data sources in Indiana. The development of the indicators referenced in the "Health Care Data and Quality Subcommittee" report relied on earlier work published in the "Community Health Status Indicators Report" funded by the Public Health Foundation.[2]

Background:
In 2005 the Indiana General Assembly enacted IC 16-40-4 requiring the Indiana State Department of Health to implement a "Health Care Quality Data Program." The statute requires the plan to include the following:

1. A list of health care quality indicators from data involving health care services provided to individuals who reside or receive health care services in Indiana. The state department shall seek the assistance of health coverage providers and health care providers in developing the list under this subdivision.

2. A methodology for health care quality indicator data collection, analysis, distribution and use.

3. The inclusion of data concerning ethnicity and minority status, as allowed by the individuals about whom health care quality indicator data is collected.

4. A methodology to provide for a case mix system or other scientific criteria to develop and adjust health quality indicators, including infection rates that may be affected by risks and variables.

Definition of "Health":
In order to measure the quality of health care services, there needs to be a measurement of "health" of the patient and/or community. To determine appropriate measures of "health", a definition was chosen from the Institute of Medicine (IOM). IOM's definition reflects the suggested intent of the legislation and assists with the formation of the indicator list for use in Indiana.

[1] "Health Care Data and Quality Subcommittee Report", Indiana General Assembly Commission on Health Care Excellence, November 30, 2004.
[2] Community Health Status Indicators, Public Health Foundation, July 2000.

The Institute of Medicine's (IOM) Committee on Using Performance Monitoring to Improve Community Health[3] defines health as "a state of well-being and the capability to function in the face of changing circumstances". The IOM committee refined this definition with the following statements: "Health is, therefore, a positive concept emphasizing social and personal resources as well as physical capabilities." This definition also underscores the important contributions to health that are made outside the formal medical care and public health systems.

Indicators for Measuring Health:
The measurement of "health", or the indicators chosen to describe and monitor the measurement of health, divided into the following three components:

1. Lifestyle/Environment issues affecting health status
2. Appropriate, effective, and timely delivery of health care services
3. Preventive care use by the community.

The Health Quality Indicators:
Since the publication of the "Health Care Data and Quality Subcommittee Report", [4] there have been a number of substantial changes in the type and amount of health data available for public health surveillance. These new sources of data appear to be more timely and complete than other traditional public health data sources; however, many of these sources are still being evaluated for use as quality indicators.

In order to maintain the ability to monitor health quality in the community, these data sources have to be continually reviewed and the "Indicator" list updated as appropriate. It is suggested that the Indiana State Department of Health review this list annually, and an expert panel should review the list every three years. This review will allow the new data sources to be incorporated into the "Indicator" list and allow for new methodologies and policy research to be included in the decision making process. The review should occur in time to incorporate changes in the next cycle of indicator collection. The initial list of indicators for this project is summarized in *Table 1*. The chosen indicators represent an over-arching community public health measure, or an area currently identified as a community public health concern, and the indicator can be obtained based on current data sources.

[3] "Improving Health In The Community - A Role for Performance Monitoring", Committee on Using Performance Monitoring to Improve Community Health, Jane S. Durch, Linda A. Bailey, and Michael A. Stoto, Editor, Division of Health Promotion and Disease Prevention, INSTITUTE OF MEDICINE, NATIONAL ACADEMY PRESS, Washington, D.C., 1997
[4] Agency for Healthcare Research and Quality - http://www.ahrq.gov/, 2006.

Data Collection Methodology, Distribution, and use with Ethnicity and Minority Status Case Mix:

Whenever possible, the reported indicators will also be calculated based on ethnicity and race for the community.[5] When the stratified data is presented in different combinations for community use, some of this information may inadvertently disclose personal health information. For this reason, processes will be adopted to prevent some information from general disclosure in order to protect individual privacy.

Health care and public health professionals continue to struggle with how to adjust for case mix and other known risk factors when using quality indicators.[6] When generally accepted methodologies are adopted in professional literature, these adjustments will be used to report the various indicator results. Age is the most widely accepted and used risk factor for these indicators. The methodology for adjusting the results based on age is well established and has been used in a number of reports by the Indiana State Department of Health.[7]

Implementation Plan and Budget:

Because of major changes occurring in the health care data infrastructure, and the renewed interest of obtaining information on health care delivery from different data sources, the timeline for implementation of the "Indicators Project" covers an eight year period. This timeline is similar to the estimates for the improvements in the state's health care delivery data infrastructure and the new research that is being funded by Health and Human Services (HHS), as well as other organizations, over the next five to seven years.

The last six months have produced a number of reports containing useful data that have not traditionally been utilized as sources of data for quality review. Because of the impact of these new developments, the implementation cycle for this project needed to coincide with the work at these major institutions and organizations as well as the efforts of many communities in Indiana to establish electronic clinical messaging and/or electronic health records systems.

[5] The Indiana Minority Health Coalition Epidemiology Center is working with the community to increase the use of race and ethnicity codes in the data collected and reported by health delivery organizations and professionals.

[6] AcademyHealth, http://www.academyhealth.org/issues/quality.htm, 2006.

[7] Indiana State Department of Health, http://www.in.gov/isdh/dataandstats/data_and_statistics.htm, 2006.

Table 1: Indiana Health Indicators

Data Source	***Indicators***		
	Health Outcome Measures	**Lifestyle/Environment**	**Health Care Delivery**
ISDH - Vital Statistics *(State vital records are typically 2 years old)*	• overall mortality rate • suicide mortality rate • homicide mortality rate • cardiovascular mortality rate • cancer mortality rate • infant mortality Rate • prenatal care in first trimester		• cesarean delivery rate • COPD mortality rate • low/very low infant birth weight rate
ISDH – Epidemiology Section	• reportable infectious disease rate	• sexually transmitted disease rate	
ISDH – Behavioral Risk Factors Surveillance System (BRFSS). *(Surveillance is conducted every year through a cooperative agreement with the CDC)*	• adult influenza immunization rate • adult diabetes	• meet recommended levels of physical activity • overweight/obesity rate • cigarette smoking rate	• self-reported poor mental health • percent/number of uninsured
ISDH – Immunization Registry *(The State Immunization Registry does not include all childhood immunizations administered in Indiana)*	• childhood immunization rate		
ISDH – Childhood Lead Elimination Program	• child high blood lead levels reports		
ISDH Survey *(Data released every two years)*			• # primary care providers • # of dentists • # of pharmacists • # of nurses
ISDH – Self reported medical error reports			• medical error reports
ISDH through Indiana Health & Hospital Association (IHHA)			• # of hospital discharges • # of inpatient hospital days
CMS through ISDH Acute Care Division *(Centers for Medicare and Medicaid Services, US Department of Health & Human Services)*			• Heart Attack Care Quality Measures • Heart Failure Care Quality Measures • Pneumonia Care Quality Measures • Surgical Infection Prevention Quality Measures

Table 2: Implementation Plan for Years 1 – 4

Year One	Year Two	Year Three	Year Four
▪ Develop first indicator list from currently collected data ▪ Review literature and research other quality indicator work ▪ Review use of Agency for Healthcare Research and Quality (AHRQ) indicator and quality tools ▪ Develop methodology for data collection and analysis ▪ Work with partners for inclusion of ethnicity/race in collected data ▪ Develop plan for distribution and use ▪ Add Medicaid data ▪ Add data from Health Information Exchange (HIE)	▪ Update Indicator list based on the following: – Updated national quality indicators – State Expert Panel recommendations – Improvements/changes in data sources making analysis of quality indicators more readily available. ▪ Hire contractor to begin work on data analysis ▪ Complete Medicaid data addition ▪ Complete HIE data addition ▪ Continue to develop methodology for data collection/analysis ▪ Continue work with partners for the inclusion of ethnicity/race in collected data	▪ Convene panel to review "Indicator" list ▪ Update Indicator list based on the following: – Updated national quality indicators – State Expert Panel recommendations – Improvements/changes in data sources making analysis of quality indicators more readily available. ▪ Add data from Children's Health Insurance Program (CHIP) ▪ Add data from hospitals ▪ Continue to develop methodology for data collection/analysis ▪ Continue work with partners for the inclusion of ethnicity/race in collected data ▪ Complete initial work on data analysis tools	▪ Update Indicator list based on the following: – Updated national quality indicators – State Expert Panel recommendations – Improvements/changes in data sources making analysis of quality indicators more readily available. ▪ Add data from CHIP ▪ Add data from hospitals ▪ Continue to develop methodology for data collection/analysis ▪ Continue work with partners for the inclusion of ethnicity/race in collected data

Table 2 (cont): Implementation Plan for Years 5 - 8

Year Five	Year Six	Year Seven	Year Eight
▪ Update Indicator list based on the following: – Current national quality indicators – State Expert Panel recommendations – Improvements/changes in data sources making analysis of quality indicators more readily available. ▪ Add data from insurance organizations ▪ Add data from HMO's ▪ Update software equipment ▪ Review analysis and practices ▪ Plan for changes in data analysis ▪ Continue to develop methodology for data analysis based on case mix and other criteria	▪ Convene panel to review "Indicator" list ▪ Update Indicator list based on the following: – Current national quality indicators – State Expert Panel recommendations – Improvements/changes in data sources making analysis of quality indicators more readily available. ▪ Complete addition of data from insurance organizations ▪ Complete data from HMO's ▪ Update methodology of data analysis/dissemination practices ▪ Continue to develop methodology for data analysis based on case mix and other criteria	▪ Update Indicator list based on the following: – Current national quality indicators – State Expert Panel recommendations – Improvements/changes in data sources making analysis of quality indicators more readily available. ▪ Add data from other available sources ▪ Continue to develop methodology for data analysis based on case mix and other criteria	▪ Update Indicator list based on the following: – Current national quality indicators – State Expert Panel recommendations – Improvements/changes in data sources making analysis of quality indicators more readily available. ▪ Add data from other available sources ▪ Continue to develop methodology for data analysis based on case mix and other criteria

Table 3: Implementation Plan Estimated Budget

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Quality Indicators Program Coordinator *(Estimated annual increase of 5%)*	$ 62,000	$ 65,100	$ 68,355	$ 71,773	$ 75,361	$ 79,129	$ 83,086	$ 87,240
Data Analyst and Quality Manager *(Estimated annual increase of 5%)*	$ 85,000	$ 89,250	$ 93,713	$ 98,398	$ 103,318	$ 108,484	$ 113,908	$119,604
Equipment *(Equipment costs are estimated to remain unchanged)*	$ 11,100	$ -	$ -	$ -	$ 11,100	$ -	$ -	$ -
Software *(Software costs are estimated to remain unchanged)*	$ 7,000	$ -	$ -	$ -	$ 7,000	$ -	$ -	$ -
Server Support *(Estimated annual increase of 5%)* *(IOT Server support fee is $250/month)*	$ 3,000	$ 3,060	$ 3,121	$ 3,184	$ 3,247	$ 3,312	$ 3,378	$ 3,446
Cost per seat *(Estimated annual increase of 5%)* *(IOT desktop support $958.85/yr.)*	$ 1,918	$ 2,934	$ 2,993	$ 2,035	$ 2,076	$ 3,176	$ 2,160	$ 2,203
Contractor (Development) *(Estimated annual increase of 5%)*	$ -	$ 170,000	$ 178,500	$ -	$ -	$ 216,968	$ -	$ -
Storage cost *(Estimated annual increase of 2%)* *(IOT desktop support $958.85/yr.)*	$ 36,348	$ 105,516	$ 177,440	$ 252,201	$ 329,880	$ 410,568	$ 494,347	$581,317
Extranet (for data reporting) *(Estimated annual increase of 2%)*	$ 6,607	$ 6,739	$ 6,874	$ 7,011	$ 7,152	$ 7,295	$ 7,441	$ 7,589
Web site cost for data use and dissemination *(Estimated annual increase of 2%)*	$ 300	$ 306	$ 312	$ 318	$ 325	$ 331	$ 338	$ 345
Travel *(Year 1 – travel for training/conferences)* *(Years 3 & 6 – travel for expert panel)*	$ 1,500	$ -	$ 1,500	$ -	$ -	$ 1,500	$ -	$ -
Total	**$ 214,773**	**$ 442,905**	**$ 532,808**	**$ 434,920**	**$ 539,459**	**$ 830,763**	**$ 704,658**	**$801,744**